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Message framing and self-efficacy. An analysis in social health campaigns in young Spaniards[1]

Encuadre del mensaje y autoeficacia. Un análisis en campañas sociales de salud en jóvenes españoles

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The present study aims to examine the effectiveness of three health campaigns with different types of framing aimed at young people during the COVID-19 pandemic. We also analyzed the emotional impact of each campaign, as well as the role of self-efficacy in the success of the analyzed campaigns. The results show that the more moderate and less explicit message, but closer to the reality of young people, had a more effective emotional impact. Furthermore, as regards self-efficacy, the results show its discriminating role in the success of the campaigns analyzed.
Keywords: Social marketing; health campaigns; framing; emotions; self-efficacy.

El presente estudio tiene como objetivo examinar la eficacia de tres campañas de salud con diferente tipo de encuadre dirigidas a jóvenes durante la pandemia por COVID-19. También analizamos el impacto emocional de cada campaña, así como el papel de la autoeficacia en el éxito de las campañas examinadas. Los resultados muestran que el mensaje más moderado y menos explícito, pero más cercano a la realidad de los jóvenes, tuvo un impacto emocional más eficaz. Además, en cuanto a la autoeficacia, los resultados revelan su papel discriminativo en el éxito de las campañas analizadas.
Palabras clave: Marketing social; campañas de salud; encuadre; emociones; autoeficacia.

O presente estudo tem como objetivo examinar a eficácia de três campanhas de saúde com diferentes tipos de enquadramento destinadas a jovens durante a pandemia de COVID-19. Também analisamos o impacto emocional de cada campanha, bem como o papel da autoeficácia no sucesso das campanhas examinadas. Os resultados mostram que a mensagem mais moderada e menos explícita, mas mais próxima da realidade dos jovens, teve um impacto emocional mais efetivo. Além disso, quanto à autoeficácia, os resultados revelam seu papel discriminatório no sucesso das campanhas analisadas.
Palavras-chave: Marketing social; campanhas de saúde; enquadramento; emoções; auto-eficácia.

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Introduction

The COVID-19 pandemic has highlighted the need to promote behavioral change amongst people in order to increase adherence to preventive public health measures (Cueva-Estrada et al., 2021). However, the compliance of citizens, especially adolescents and young adults, with these measures has been, in general, scarce (Nivette et al., 2021). In order to improve compliance with preventive measures, health authorities have implemented different types of persuasive health campaigns, in many cases aimed at young people, in order to modify the risk behaviors of this group in the face of the pandemic (Heffner et al., 2021).

A health campaign describes "a systematic effort to change health behaviors (or attitudes and beliefs about health and/or social and environmental conditions that mediate health behaviors) within a target population of people who are at risk for a health problem or problems" (Wright et al., 2008, p. 259).

Regarding the elements that affect the persuasiveness of campaigns in promoting health behaviors, the literature review provides contradictory results. For example, some authors found that messages that emphasize negative consequences of failing to engage in healthy behavior (loss framed), thru the use of fear, have a positive persuasive effect and generate increased behavioral change (Witte & Allen, 2000). On the contrary, other studies (Roskos-Ewoldsen et al., 2004) found a "boomerang effect" (Brehm & Brehm, 1981), which causes recipients to adopt behaviors opposed to the health recommendation when recipients perceive health messages as too scary or threatening (Carfora & Catellani, 2021; Missaglia et al., 2017). However, different authors have examined how persuasive health messages can be framed in terms of the benefits of engaging in healthy behavior (gain framed), and use humor as a persuasive strategy (Yoon & Tinkham, 2013).

A long tradition of communication research has shown that the individual characteristics of the recipients influence the persuasive effectiveness of the message (Cesario et al., 2008). In the field of health promotion, different authors have shown that self-efficacy is a relevant

determinant of motivation to adopt a healthy behavior (Avery et al., 2020), and it can moderate the effects of message framing on persuasion (Van't-Riet et al., 2008).

The aim of the present study is to examine the effectiveness of three different health campaigns in improving attitudes toward compliance with COVID-19 pandemic prevention measures in Spanish young people. In addition, we aim to analyze the emotional impact generated by each health campaign on individuals, and finally, we examine whether the differences between individuals with high and low self-efficacy are related to the success of these campaigns.

This study is justified for two important reasons. Firstly, the rate of compliance with health measures amongst young people is reduced (Nivette et al., 2021), thus supporting the need to assess the effectiveness of health campaigns in this particular sector of the population. Secondly, in unexpected situations of global public health crisis, such as the COVID-19 pandemic, it is essential to identify what types of messages are most effective in increasing compliance with preventive health behaviors, thereby facilitating health managers in the development of health campaigns capable of raising public awareness of the threat in the context of both current and future pandemics (Carfora & Catellani, 2021).

THEORETICAL FRAMEWORK

Role of health campaigns in changing attitude and behaviour

The adoption of unhealthy behaviors among young people is becoming increasingly established at younger ages and with a higher incidence (D'Amico et al., 2020). The implementation of social health campaigns aimed at young people is an opportunity to raise awareness among the young population with the aim of improving attitudes and behavior towards risky behaviors, although the effect of these campaigns is not always the desired one (Canto et al., 2021). In Spain, the main health campaign interventions among young people focus on reducing the use of illegal drugs and alcohol, as well as preventing risky sexual and leisure behaviors (Hernán et al., 2001).

A health campaign is a tool aimed at communicating and promoting health changes thru mass media and social networks (Grigoryan, 2019). It is based on a persuasive message that aims to change attitudes and behaviors to improve the well-being of individuals and society (Missaglia et al., 2017).

An attitude represents a tendency to respond favorably or unfavorably toward an object, person, institution, event, or concept. Attitudes are composed of a cognitive (i.e., beliefs about an object), affective (i.e., feelings about an object), and conative (i.e., behavioral intentions toward an object) component . Based on the theory of planned behavior (TPB) (Azjen, 1991), psychological research has suggested that attitudes, amongst other factors, such as subjective norm and the concept of perceived behavioral control, predict behavioral intention, which in turn determines individuals' behavior. According to the TPB, different authors have added the variable self-efficacy, understood as an individual's belief in his or her ability to perform specific behaviors in specific situations (Bandura, 1993), as a factor with strong predictive power for behavioral intention during past and current pandemics (Shmueli, 2021)

Theoretical models of persuasion

In the field of communication, there are different theories to explain the effectiveness of health campaigns according to the type of message employed. On the one hand, the concept of narrative transportation (transportation-imagery model) (Green & Brock, 2000) has been proposed as the main mechanism or mediating process to explain the persuasive impact on consumers and serves as a theoretical framework to understand the use of different advertising message strategies in social campaigns (Deng et al., 2020). Narrative persuasion uses convenient stories crafted to appeal to individuals emotionally and, at the same time, decreases their motivation to counterargue. A meta-analysis showed that narrative is an effective persuasive strategy in health communication for generating changes in individuals' attitudes, intentions, and actions (Shen et al., 2015).

On the other hand, research has shown that message framing characteristics are relevant to the persuasive effectiveness of

campaigns (Carfora & Catellani, 2021). In this line, an extensive literature on framing has been developed, related to communication in general (Rodelo & Muñiz, 2017) and also to health communication, being considered one of the most widely used theoretical approaches in communication sciences (Cacciatore et al., 2016). Framing describes how information is presented in the media and how different presentations affect the audience (Guenther et al., 2021). For example, messages may differ in terms of their valence frame. In this sense, "a gain-framed persuasive appeal emphasizes the advantages of compliance with the communicator's recommendation or viewpoint, as contrasted with loss-framed appeals, which emphasize the disadvantages of non-compliance" (O'Keefe & Jensen, 2007, p. 623). Existing evidence suggests that positively gain-framed messages were more persuasive than loss-framed messages for promoting prevention behaviors (Gallagher & Updegraff, 2012), whereas loss-framed messages should be more persuasive for disease detection behaviors (Brusse et al., 2017). However, other authors (Machado et al., 2019; O'Keefe & Jensen, 2007; Strachan et al., 2020) find no significant differences in persuasiveness between gain- and loss-framed messages in relation to preventive actions.

Role of emotions in persuasive communication

Health behavior models such as the health belief model (Rosenstock, 1974) and protection motivation theory (Rogers, 1975) have theorized that the perceived threat of a particular health hazard motivates people to engage in preventive behaviors as a way to reduce risk. The increase in perceived threat is established thru persuasive messages, communicating the consequences that can result from risky behavior (Yoon & Tinkham, 2013).

A large history of research has used negative emotional appeals as a strategy for changing attitudes and intentions for health-related behaviors with effective results (Tannenbaum et al., 2015); however, there is no consensus on the effectiveness of campaigns as a function of the level of intensity of emotional reactions (Borawska et al., 2020). In a related line of enquiry, different authors analyze the use of humor to communicate threatening information. Existing evidence suggests

that humorous appeals in social campaigns on different health topics show a different level of effectiveness depending on the intensity of the threat and the involvement of the topic (Yoon & Tinkham, 2013). Humor can increase audiences' attention and reduce counter-arguing, thereby enhancing persuasion, but this may also trivialize the topic and its related consequences (Moyer-Gusé et al., 2011). Given the literature review carried out and the relevance of these communication initiatives, it would be useful to shed more light on the results of such strategies.

Methodology

The present study poses the following research questions:

- RQ1: What strategy, gain-framed positive message versus loss-framed negative message, generates a greater emotional response in youth?
- RQ2: Which of these strategies is most effective in favorably modifying the preventive attitudes of youth set by the COVID-19 pandemic?
- RQ3: What role does youth's perceived self-efficacy play in the impact of the different health campaigns analyzed?

In order to answer the research questions proposed, we opted for an empirical approach by designing an experiment. This approach will allow us to compare the effects of different communication strategies and their results (Grande & Abascal, 2017).

Based on the literature reviewed, a panel of communication experts (3 professionals and 4 scholars) assessed a pool of 9 COVID-19 campaigns targeting young people broadcast on social networks in November and December 2020. Each campaign was required to be assessed for its suitability in terms of the type of emotions elicited (positive or negative), the type of framing (loss or gain) and narrative persuasion. The panel finally selected three of them as the most appropriate.

We conducted an experiment of three between-groups conditions, one for each campaign (loss-framed moderate narrative, loss-framed explicit narrative, and gain-framed humorous narrative).

- Campaign 1 (C1): "Your grandmother has COVID. She's not going to make it thru the night".[5] Loss-framed message with moderate narrative, using everyday images easily recognizable to the target.
- Campaign 2 (C2): "Don't be a jerk".[6] Loss-framed message with explicit narrative, including dramatic images of hospitals, tombstones, and cemeteries.
- Campaign 3 (C3): "Become a hero too and stay at home".[7] Gain-framed message with humorous narration, showing how laziness could save lives and turn you into a hero.

Questionnaire design and data collection

The questionnaire was organized in three parts: contextualization and assessment of attitudes, behaviors, and perceptions of the pandemic (pre); watching the campaign as well as evaluating its emotional response and impact on attitudes (post); and general data collection on the participants.

At the beginning of the questionnaire, the participant had to provide information about their health and their relatives' health, whether they had suffered from COVID-19, as well as their attitudes and perceptions about the disease and the health measures prescribed by the government. The second part of the questionnaire began with the viewing of one of the three campaigns. Participants were allowed to view the video for as long as they wanted. Then, each participant was asked to evaluate the emotions aroused by the campaign as well as the impact of the story on their attitude and their intention to respect the health measures. Finally, participants answered questions related to psycho-sociodemographic data.

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5 https://www.youtube.com/watch?v=xBJGzaDGsXM

6 https://www.youtube.com/watch?v=3YFgKNq3cxM

7 https://youtu.be/JNxz9xR1Aks

The questionnaire was examined by a panel of experts to ensure content validity. To verify the clarity of the questions and gain feedback on the length of the questionnaire, it was further tested in a group of 20 target participants. Data collection took place from the 15th to the 25th of February. Filling in the questionnaire required between five and eight minutes. The task was self-paced.

Measurement scales

The variables included in the study and the measurement scales are shown in Table 1. The measurement scales were selected and adapted after a thorough review of the literature. All responses were measured using a 7-point Likert scale, ranging from "strongly disagree = 1" to "strongly agree = 7".

Participants/Sample

The sample was composed of 245 young university students (106 men and 139 women) from Madrid, Spain, aged between 19 and 26 years old. They were recruited from social media sites, mainly Facebook and WhatsApp (Mullinix et al., 2015), and randomly assigned to one of the three experimental groups. The study was conducted thru a web survey. Of the respondents, 77.6% had not suffered from COVID-19, and 46.9% had had a direct family member with COVID-19.

RESULTS

A first overall analysis of the sample reveals high scores in self-efficacy and in the effectiveness of the health measures. Comparing pre and post attitude, the latter increases significantly after the viewing. The strongest negative emotions were sadness (5.07) and fear (4.05); regarding positive emotions, surprise (2.56) and tenderness (2.27) were the highest. It was also found that all the differences in the scores of pre-experiment variables for the three groups were not significant. However, they were significant in the case of emotional responses and post-experiment attitude, suggesting a certain effect from the campaigns as a whole (Table 2).

TABLE 1
VARIABLES AND MEASUREMENTS SCALES

Variables	Items	Authors
Attitude toward COVID-19 (PRE)	• Likely to become infected with the new coronavirus • Willingness to comply with the COVID-19 prevention measures dictated by the health authorities • Concerned about my health or that of my relatives	Adapted from Prasad-Singh et al., 2020
Effectiveness of preventive health measures	• Effectiveness of the use of masks, social distance, and other prevention measures prescribed by the health authorities	Adapted from Sobkow et al., 2020
Self-efficacy	• I am confident in my ability to protect myself from COVID-19. • I have the willpower to engage in these precautionary actions. • I am certain that I will take these actions even if they are difficult or inconvenient.	Adapted from Cho & Lee, 2015
Emotional response	• 5 negatives: anger, dislike, disgust, sadness, and fear. • 5 positives: joy, surprise, fun, tenderness, and pride.	Adapted from Bagozzi et al.,1999
Attitude toward COVID-19 (POST)	• After viewing this ad, please indicate your willingness to comply with the prevention measures. • Do you think this ad will make you more careful / respect the rules in the face of COVID-19?	Adapted from Borawska et al., 2020

Source: The authors.

TABLE 2
TOTAL SAMPLE RESULTS BY EXPERIMENTAL GROUPS

Variables Included	N= 245		C1; N=80		C2; N=80		C3; N=85	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Perceived Effectiveness Preventive Health Measures	**4.64**	1.47	**4.71**	1.42	4.61	1.52	4.61	1.50
Self-Efficacy	**5.33**	1.11	5.30	1.14	5.28	1.14	**5.40**	1.06
Attitude_Pre	**3.86***	1.28	**4.03**	1.28	3.81	1.29	3.74	1.28
Attitude_Post	**4.17***	2.04	**4.73****	1.95	4.34	1.97	3.48	2.00
Emo_1_Anger	3.43	2.16	4.43	2.02	3.84	2.06	2.12	1.69
Emo_2_Dislike	3.73	2.17	4.73	2.02	4.34	1.87	2.21	1.72
Emo_3_Disgust	3.28	2.20	4.15	2.33	3.43	2.06	2.32	1.79
Emo_4_Sadness	**5.07**	2.15	**5.90****	1.79	5.34	2.06	4.05	2.17
Emo_5_Fear	**4.05**	2.17	**5.15****	1.85	4.50	2.06	2.59	1.73
Emo_6_Joy	1.84	1.51	1.25	0.68	1.35	0.96	2.87	1.94
Emo_7_Surprise	**2.56**	1.85	2.58	1.76	1.95	1.51	**3.11****	2.05
Emo_8_Fun	1.72	1.40	1.28	0.86	1.39	1.06	2.45	1.76
Emo_9_Tenderness	**2.27**	1.82	1.96	1.69	1.75	1.51	**3.06****	1.95
Emo_10_Pride	2.21	1.84	1.83	1.73	1.61	1.34	3.13	1.99

* Significant differences for the total sample, $p < .000$.

** Significant differences between the experimental groups, $p < .000$.

Source: The authors.

Comparing the differences by experimental groups after viewing the campaign, C1 achieved the highest scores for both post-experiment attitude (4.73) and negative emotions (sadness 5.90; fear 5.15), and these differences are significant compared to the other two experimental groups. Regarding positive emotions, C3 obtained significantly higher values (Table 2). These results allow us to answer RQ1, showing that C1, the loss-framing strategy with moderate narration, obtained the highest scores.

To address RQ2, an analysis of the Attitude_Pre and Attitude_Post scores for each of the experimental groups was carried out. The results indicate significant differences for the loss framing in C1 and C2 but not for the gain framing in C3 (Table 3).

TABLE 3
ATTITUDE ANALYSIS BY EXPERIMENTAL GROUPS

		Mean	N	Std. Dev.	*t*	df	Sig. (2-tailed)
Total participants	Attitude_Pre	**3.86**	**245**	**1.28**	**-2.610**	**244**	**.010**
	Attitude_Post	**4.17**	**245**	**2.04**			
C1	Attitude_Pre	**4.03**	80	1.28	-3.331	79	**.001**
	Attitude_Post	**4.73**	80	1.95			
C2	Attitude_Pre	**3.81**	80	1.29	-2.605	79	**.011**
	Attitude_Post	**4.34**	80	1.97			
C3	Attitude_Pre	3.74	85	1.28	1.346	84	.182
	Attitude_Post	3.48	85	2.00			

Source: The authors.

To analyze the effect of the different independent variables on Attitude_Post, a regression was performed. The results indicate that both Attitude_Pre (β=.360, p=.000) and Percived Effectiveness (β=.220, p=.000) have an effect on Attitude_Post (R^2=0.241; p< .000). However, the variable Self-Efficacy (β=.056, p=.404) has no direct effect on Attitude_Post.

Nonetheless, Self_Efficacy is considered to have an indirect link with the effect of the campaigns depending on the strategy used and

the effect reached. Thus, participants with high vs. low Self_Efficacy scores were differentiated to analyze Attitude_Post scores in each group. Participants with scores below the mean (i.e., low Self_Efficacy) show significant increases in Attitude_Post only for experimental group C1. In contrast, participants with above average Self_Efficacy scores show significant increases in Attitude_Post in both the C1 and C2 campaigns. The C3 strategy seems to have no effect on either high or low Self_Efficacy participants (Table 4). Thus, it can be argued that Self_Efficacy has a certain influence on the impact of the communication strategy. Therefore, persons who are less sure of their self-control to comply with the measures prescribed by the authorities will react better to a loss-framed messages with a moderate narrative, in contrast to the group with high self-control, which reacts positively to both moderate and explicit narratives. These results provide an explanation for RQ3.

TABLE 4
ANALYSIS OF LOW VERSUS HIGH SELF-EFFICACY PARTICIPANTS

Low Self_Efficacy		Mean	N	Std. Dev.	*t*	df	Sig. (2-tailed)
C1	Attitude_Pre	**3.46**	31	1.19	-2.787	30	**.009**
	Attitude_Post	**4.23**	31	1.91			
C2	Attitude_Pre	3.14	31	.92	-1.183	30	.246
	Attitude_Post	3,55	31	1,929			
C3	Attitude_Pre	2.87	34	1.02	1.086	33	.285
	Attitude_Post	2.56	34	1.541			
High self_Efficacy		Mean	N	Std. Dev.	*t*	df	Sig. (2-tailed)
C1	Attitude_Pre	**4.40**	49	1.21	-2.199	48	**.033**
	Attitude_Post	**5.04**	49	1.93			
C2	Attitude_Pre	**4.23**	49	1.32	-2.397	48	**.020**
	Attitude_Post	**4.84**	49	1.85			
C3	Attitude_Pre	4.32	51	1.09	.863	50	.393
	Attitude_Post	4.10	51	2.05			

Source: The authors.

Discussion

The main objective of our research was to examine the differential effectiveness of three health campaigns aimed at improving the attitudes of young people to comply with health measures during the COVID-19 pandemic. We also analyzed the emotional impact of each campaign as well as the role of self-efficacy in the success of the analyzed campaigns.

In relation to the emotional response (RQ1), the results indicate that a message that combined a loss-framed with a moderate narrative generated the highest level of negative emotions (sadness and fear) compared to both a message with a loss-frame combined with an explicit narrative and a gain framed message. This result indicates that the more moderate and less explicit message, but one that was closer to the reality of young people, had a more effective emotional impact. Considering that an extensive amount of research literature (Tannenbaum et al., 2015) supports the role of negative emotional appeals as a strategy to favorably modify individuals' attitudes about health behaviors, the results obtained support the use of messages with moderate narratives to achieve emotional impacts on youth. Campaign 3, based on a gain-framed and humorous narrative, generated the highest scores on positive emotions.

In relation to effectiveness (RQ2), the campaigns that were effective in improving young people's attitudes toward compliance with health measures were those framed with a loss narrative message (C1 and C2), whereas the campaign framed with the gain message was not effective. In contrast to previous studies (O'Keefe & Jensen, 2007; Strachan et al., 2020), our work finds that only campaigns with a loss message generate attitudinal changes in young people. In this sense, the generation of a campaign with a humorous narrative in the context of a pandemic, which has generated an exceptional situation of great uncertainty and collective emotions due to the substantial social changes imposed (Chou & Budenz, 2020), has failed to impact young people in the expected way. These results are in line with previous studies in non-pandemic contexts (Moyer-Gusé et al., 2011).

Regarding self-efficacy (RQ3), the results show its discriminative role in the success of the analyzed campaigns. In this sense, loss-framed

campaigns (C1 and C2) are effective for subjects with high levels of self-efficacy. However, only the moderate campaign (C1) was effective for subjects with low self-efficacy. Theory indicates that self-efficacy acts as a strong predictor of behavioral intention (Shmueli, 2021). In this sense, the subjects most vulnerable to noncompliance with health measures will be those with low self-efficacy, so it seems reasonable to consider them as a group at risk of noncompliance with the measures. Thus, it would be very interesting to develop health campaigns aimed at this target, since they are the least compliant, ensuring that they are effective for these subjects.

These results are consistent, in part, with previous studies that showed that people with high levels of self-efficacy better accept the loss frame and behavior change, while people with low levels of self-efficacy tend to reject the threatening loss message (Carfora & Catellani, 2021). These results are particularly important as they allow health authorities to develop effective campaigns focused on subjects at higher risk of non-compliance with measures. Our study shows that, in the context of the pandemic, subjects with low self-efficacy do accept loss messages but only with a moderate strategy close to their reality. However, an explicit narrative with images of hospitals, respirators, tombstones and cemeteries probably leads them to activate defense mechanisms that reject the messages received, according to the theory of psychological reactance (Brehm & Brehm, 1981).

Regarding limitations, the stimuli used in the experiment were videos of real campaigns produced by different European health authorities that were being broadcasted on the Internet. While two of them were available with audio in Spanish, the humorous campaign was only available with Spanish subtitles. Although the pretest was satisfactory and all participants expressed their understanding, this aspect may have been to some extent a conditioning factor of the campaign.

As possible avenues for future research, cultural and social influences should be taken into account, analyzing the impact of the different strategies in other countries. Thus, cultural dimensions that shape societies such as individualism, uncertainty avoidance, long-term orientation or indulgence may play some kind of role. It would also be

interesting to study in depth the role that variables such as perceived risk, confidence, or optimism can play in the impact of the messages on the modification of certain risk behaviours.

Conclusions

Social campaigns are carried out by governments and health authorities as communication tools with a clear educational and behavioral improvement objective. From a formal point of view this objective makes their in-depth analysis even more essential for the development of correct public communication policies.

This study provides results on the effectiveness of three social campaigns aimed at fostering awareness among young people in the first months of the pandemic. In the initial stages, the significant need to raise awareness among this group in order to improve compliance with health regulations, and thus avoid contagion, encouraged institutions to generate multiple social campaigns targeted specifically at them.

Our results show that the two loss framed campaigns are effective in improving young people's attitudes towards pandemic prevention measures. However, the strategy that is most effective in generating a negative emotional response in the subjects under study was the one with a moderate narrative message. Furthermore, the study of the role of self-efficacy in the reach of campaigns shows that the moderate narrative campaign can persuade not only individuals with high self-efficacy to adopt preventive measures, but also those young people with lower self-efficacy. These individuals are generally the least likely to adopt preventive measures, and more vulnerable to engage in maladaptive responses, processing persuasive information, in some cases, in a defensive manner. Therefore, this type of strategy seems to be the most appropriate for making changes in the attitudes and behaviors of the most vulnerable and, ultimately, the main targets of communication.

These results are important from both a theoretical and an applied point of view. On a theoretical level, and in line with previous authors (Borawska et al., 2020), the results obtained in a pandemic context demonstrate that the effectiveness of a social campaign to

generate positive changes in attitudes does not necessarily have to use particularly explicit and shocking content for the subjects. From an applied point of view, the study presented can be very useful for health institutions responsibles, because these results can help to better guide compliance with preventive measures for current and future pandemics by analyzing the differential impact they can have, taking into account the differences between individuals (Ortega-Gaucin et al., 2016). This helps to ensure both the effectiveness of future campaigns aimed at the target group and the efficient use of public budgets, which are always limited.

Furthermore, cultural differences in social influences play an important role in young people's behavioral choices and encourage more systematic research in an increasingly globalized and multicultural world. In many cases, culture can influence the final behaviors that the subject develops. Aspects such as psychological resilience and resistance to social pressure may be fundamental in driving young people's preventive behaviors (Bertolotti et al.,2020). Along these lines, it would be interesting to analyze how certain behavioral choices become popular among young people, for example, in relation to fashion or technology use, in order to identify whether a similar process occurs in the adoption of prevention behaviors.

In conclusion, our results contribute to a better understanding of the conditions under which the communication of preventive measures in situations of health exceptionality can be really effective in a specific population such as young people.

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